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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/925,323	08/10/2001	Shigeru Shoji	110378	4771

25944 7590 07/18/2003

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EXAMINER

ESPLIN, DAVID B

ART UNIT	PAPER NUMBER
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2851

DATE MAILED: 07/18/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/925,323	SHOJI, SHIGERU	
	Examiner	Art Unit	
	D. Ben Esplin	2851	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 13-17 is/are allowed.
- 6) ☒ Claim(s) 1,3-8 and 10-12 is/are rejected.
- 7) ☒ Claim(s) 2 and 9 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|----------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____. | 6) <input type="checkbox"/> Other: |

DETAILED ACTION

Information Disclosure Statement

The information disclosure statement filed 12/6/01 fails to comply with 37 CFR 1.98(a)(2), which requires a legible copy of each foreign patent; each publication or that portion which caused it to be listed; and all other information or that portion which caused it to be listed. It has been placed in the application file, but the information referred to therein has not been considered.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 3-6, 8, and 10-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,329,090 to Woelki et al. in view of U.S. Patent No. 5,109,149 to Leung, and further in view of U.S. Patent No. 6,312,876 to Huang et al.

Woelki discloses a method for imprinting wafer-identifying information on wafers including exposing the wafer to light forming an image of the wafer-identifying information, the numeral or symbol patterned onto each wafer being changeable wafer by wafer (col. 1 lines 5-8). Woelki teaches of using a laser writing device, rather than a mask exposure system for imprinting wafer-identifying information. However, Leung discloses a "maskless" lithography

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system for exposing a substrate that uses a laser writing device as an art recognized alternative to a mask exposure system (col. 2 lines 6-14). Therefore, it would have been obvious to use a mask exposure system in the method of Woelki as an art recognized alternative to the laser writing device.

Further, Woelki does not specifically disclose any information about the treatment of the wafer prior to exposure of the wafer-identifying information. But Huang teaches that the coating of the wafer with a resist to be patterned with wafer-identifying information so that the wafer may later be etched using the resist as a pattern was a well known wafer preparation (see abstract). So it would have been obvious to include the steps of coating the wafer with a resist, and etching the exposed wafer using the resist as a pattern, in the method of Woelki in view of Leung, as art recognized steps for forming a pattern on a semiconductor wafer.

Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Woelki in view of Leung, in further view of Huang as applied to claims 1,3-6,8, and 10-12 above, and still further in view of U.S. Patent No. 5,049,925 to Aiton et al.

Woelki, Leung, and Huang are silent concerning the forming of a plating layer using the patterned resist layer as a frame. Aiton teaches that using negative resist, rather than a positive resist for etching a pattern, was a well known equivalent method for marking a resist layer (col. 5 lines 22-24). In view of the teaching of Aiton, it would have been obvious to include the step of forming a plating layer by performing plating with the patterned resist layer used as a frame in the method of Woelki in view of Leung, and in further view of Huang, as an art recognized alternative to etching a pattern into the resist layer using the patterned resist as an etch mask.

Allowable Subject Matter

Claims 13-17 are allowed.

Claims 2 and 9 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is an examiner's statement of reasons for allowance: A method and/or apparatus for imprinting wafer-identifying information onto a wafer including exposing the resist layer with any of a plurality of masks, for exposing each digit of the wafer-identifying information, one digit at a time.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

U.S. Patent No. 5,175,774 to Truax et al. discloses a semiconductor wafer marking identification apparatus and method.

U.S. Patent No. 5,808,268 to Balz et al. discloses a method and apparatus for marking substrates with high-density indicia.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to D. Ben Esplin whose telephone number is (703) 305-4022. The examiner can normally be reached on Mon.-Fri. (8am-4:30 pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Russell E. Adams can be reached on (703) 308-2847. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9318 for regular communications and (703) 872-9319 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

DBE
DBE

July 16, 2003



RUSSELL ADAMS
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 1000